Zoophobia

## Introduction

The game is built by using the assets given from the Unity Learn - Junior Programmer, and some self-made textures to match the game’s UI. The game’s gameplay is self-designed and is coded from scratch using the knowledge learned from the Unity Learn – Junior Programmer Pathway. This game is made to showcase my skills developed in Game Development. The project is free to browse to see how it is coded. The project is available on GitHub.

## Concept

Run away from the animals they don’t like you and they will bite you. While running away you should dodge all the incoming obstacles, the animals are so much on your tail they will just run into any obstacle. If you’re lucky, you can pick up some food to restore your health, bombs or balls to throw at the at the animals, a shield to run through anything or double your diamond coins you pick up.

### Player control

The player controls a character that will continuously run from left to right in a side view game, the player has 3 lanes that he can move up and down with, using the arrow keys and can also run faster and slower using the arrow keys. The player can also jump using the space bar.

### Basic Gameplay

In the game obstacles will appear, moving from right to left on the screen, the player has the decision to jump over the obstacle or to move away from it. The obstacles must be used to destroy the enemies chasing the player. The player and the enemies both have health, when the player or the enemy hits an object the health would be reduced. The score will increase as the player collects the coins or kill an enemy.

### Sound & Effects

No sound was added in the project.

Particle effects is used when running into obstacles, being bitten, when bomb explodes, when enemies run into obstacles and when bosses use their ability.

### Gameplay Mechanics

As the game progresses, more enemies spawn, making it hard to survive, after killing a few enemies a boss will spawn after the boss has been killed, the game has ended.

### User Interface

#### Main menu

New Game > Enter Name > Character select > Level select

High Score

Options > Info + Controls + Back

Exit

#### In-game UI

Time

Score

Player Health + Boss Health

Current Powerup

#### Pause Menu

Continue

Options > Info + Controls + Back

Exit to Main Menu

#### End Game

Play Again

Exit to Main Menu

### Levels

Level 1 - City:

Dogs chasing player

Dogging Barriers and cars

Pug Boss

Level 2 - Town:

Farm animals chasing player

Dogging Barrels, Crates and Cars

Level 3 - Nature:

Forest animals chasing player

Dogging Rocks, Tree logs, Cars and Busses

### Powerups

Dropping balls that does damage to the animals.

Shield that will grant invulnerability (star)

Double Coins

Heal

Bomb

## Programming

Using Singleton pattern to create UIManager and GameManager

Using State Pattern to control the state of the game (Main menu, In Game, Pause, Game End)

Using Object Pooling to choose Characters and to spawn enemies, powerups and objects

### Scripts Layout

AI

EnemyMain – IDamageable

Follow Player

When dead add score to player

Attack when close

Run closer to player, sometimes

BasicEnemy (inherited from EnemyMain)

Will be counted to maintain amount spawn

And how many have been killed

BossMain (inherited from EnemyMain)

Control HealthBar

BossPugDog (inherited from BossMain)

Stink breath (damage per second)

BossChicken (inherited from BossMain)

Fire breath (damage per second)

BossRacoon (inherited from BossMain)

Black breath (damage per second)

Interfaces

IDamageable

Damage (damageTaken, damageType, damageLocation)

Lists

CharacterList

HighScoreList

LevelList

LevelSelectList

BackgroundList

GroundList

SpawnList

Enemies

Obstacles

Bosses

Obstacles

ObstacleHitCollider

When hit it does damage and gets disables

Obstacles - IEndGameObserver

Moves left, and speed changes when game progresses

Player

PlayerController - IDamageable

Player movement

Control Powerups

Pickups

BombDrop

When the player picks up a bomb

The bomb drops and waiting to hit an enemy

Then will spawn an explosion

Explosion

Find all Enemies in radius and do damage

Pickups

Contain pickup type from the Enums

Rotate the pickups

System

SpawnManager

Spawn Objects + Enemies

BackgroundRepeat

Moves the background + ground

Sets to new position when a curtain position is reached

GameManager

Control the Load and unloading of scenes

Control the game states

Control the gameplay

Load/Saves high scores

Stores the player’s name, character selected and level

Create + Destroy Managers

LoadSave

Contains HighScoreList

Save this script as json

UI

UIManager

Contains all states, when to show which UI. Always run-in background (singleton)

Create a prefab of all the UI’s that will be controlled with the UIManager

InGameUI

Contains Time, score and current powerup, Player’s Health, Boss Health

MainMenu

Contains all the buttons + functions

PauseMenu

Contains all the buttons + functions

EndGameMenu

Contains all the buttons + functions

GameOverMenu

Contains all the buttons + functions

HighScoreMenu

Shows the highscores

OptionsMenu

Contains all the buttons + functions

Utils

Enums

DamageType

Particles To Spawn

Pickups

Singleton

### Events:

When damage has been delt to player or boss

* 1. Statics:

Level Selected (GameManager)

Speed of the background movement (GameManager)

* 1. Save:

High scores: Player Name, score, level, time

## Project Sketch

